

SOCIO-DEMOGRAPHIC CHARACTERISTICS AND ASSOCIATED FACTORS INFLUENCING CERVICAL CANCER**H. N. Ashikur Rahaman¹****¹Registrar, Dept. of Clinical Oncology, Enam Medical College & Hospital, Savar, Dhaka, Bangladesh****Corresponding author: H. N. Ashikur Rahaman****Conflict of interest: Nil****Abstract**

Background: Cervical cancer is one of the most public health burdens in the world. In Ethiopia, cervical cancer is the second most frequent cancer among women aged 15 to 44 years old. Cervical cancer screening is an effective measure to enhance the early detection of cervical cancer for prevention. However, the magnitude of cervical cancer screening is less than 1%. **Aims:** This study aimed to determine the influence of sociodemographic characteristics and related factors on screening. **Methodology:** A descriptive design is carried out on purposive sample of (150) women attending at Enam Medical College & Hospital, Savar, Dhaka, Bangladesh from January 2020 to Jun 2020. A questionnaire constructed for the purpose of the study. Content validity and internal consistency reliability for the study's questionnaire are determined through a pilot study. Data is collected through the study instrument using the interview technique as means of data collection. Data were analyzed through the application of descriptive and inferential statistical analysis approaches. Data analysis reveal that women, who are obese, exposed to genital infections and use oral contraceptive drug are at risk for cervical cancer. **Results:** This study was description presented, the samples demographic characteristics reveals that most of women are (25-34) year old, equally distributed relative to their marriage status, the majority of them are (15-24) year old when they get married, secondary school graduates, employed and housewife with family monthly income of 10001-15000 BDT. Women's body mass index results illustrates that most of them are overweight and obese. Most of the women are (25-34) year old; equally distributed relative to their marriage status; at (15-24) year of age at marriage; secondary school graduates; employed and housewife with family monthly income of 10001-15000 BDT. Indicate that cervical cancer's preventive measures have significant relationships with women's age at marriage and their body mass index, and not significant with the remaining of women's socio-demographic characteristics. Other factors including low monthly income, unlikely chance of having cancer, lack of knowledge, and fear test outcome were significantly associated with the low uptake of screening. **Conclusion:** This study revealed that the uptake of cervical cancer screening was low. Women in the potential target population of cervical cancer screening were just a proportion of all studied age groups and screening in them was more common than in younger women. Besides, rural residence, low monthly income, and lack of knowledge were important predictors for low utilization of cervical cancer screening practice.

Keywords: Assessment, Cervical Cancer, Risk factors, Preventive Measures.

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I. Introduction

In 2017, cervical cancer was the fourth most common cancer among females worldwide. There has been an estimation of 528000 new cases of cervical cancer, of which around 85% occurred in less developed regions. Around 266000 females died of cervical cancer, accounting for 7.5% of all female cancer deaths. About 87% of cervical cancer deaths occurred in the less developed regions [1]. In the low-resource countries, 700 women die every day from cervical cancer, leaving behind families and communities that depended on them [2]. The risk for cancer of the cervix has been associated with several factors, including infection with certain types of human papilloma virus (HPV), early age at first intercourse, multiple male sex partners, a history of sexually transmitted diseases, smoking, certain nutritional deficiencies, and low socioeconomic status. HPV is widely accepted as the cause of most squamous cell cervical cancers, and the sexual practices listed are well-established risk factors for the disease [3][4] [5]. Cervical cancer can be found early and even prevented with routine screening tests. The Pap test looks for changes in cervical cells caused by HPV infection, and looks for the infection itself [5]. It is highly preventable in most Western countries because screening tests and the vaccine to prevent human papillomavirus (HPV) infections are available. When cervical cancer is found early, it is highly treatable and associated with long survival and good

quality of life [6]. According to the Social Progress Index 2014 by Social Progress Imperatives, the score of Bangladesh was 52.04, higher compared to that of Nepal, India and Pakistan [8]. Current estimates indicate that every year 291 women diagnosed with cervical cancer and 142 die from the disease. Cervical cancer ranks as the 12th most frequent cancer among women in Bangladesh and the 10th most frequent cancer among women between 15 and 44 years of age. Data is not yet available on the HPV burden in the general population of Bangladesh. However, in Western Asia, the region Bangladesh belongs to, about 2.3% of women in the general population are estimated to harbor cervical HPV-16/18 infection at a given time, and 72.4% of invasive cervical cancers are attributed to HPV-16 or 18 [7]. The other conducted a study to determine the occurrence of HPV infection in a population of 856 Bangladesh women in Dhaka City using Multiplex PCR, the prevalence of HPV DNA was 12.38% among the women whose age is 16 to 70 years old with the highest prevalence of 47(44.34%) among women aged 21 to 30 years [8]. The study prevalence of cervical inflammatory, premalignant and malignant lesions among 300 Bangladesh women, the pap smear test revealed the presence of pathological changes in 209(67.7%) women while the rest 91(30.3%) did not show any abnormality. Accordingly, the current study aims at assessing the risk factors and

preventive measures for cervical cancer among a sample of Bangladesh women and determining the relationship of this assessment and women's demographic characteristics. Therefore, the improvement is becoming reduced even using multiple treatment modalities, such as surgery, radiology or chemotherapy. Several reasons are noted in different studies; for instance, location, access to the health facility, educational level, financial capability, and later visit of their doctor [9, 10]. Therefore, the purpose of this study is to determine the influence of socio-demographic characteristics and related factors on cervical screening among women who attended EMCH, Bangladesh.

II. Methodology

A descriptive study using the assessment approach is applied to assess risk factors and preventive measures toward cervical cancer among a purposive sample of (150) married Bangladesh women aged between (15-54) years old attending Enam Medical College & Hospital, Savar, Dhaka, Bangladesh from January 2020 to Jun 2020. Data is collected through using a constructed questionnaire. The questionnaire is comprised of three parts; the first part is dealing with 6 items of women's socio-demographic characteristics and women's Body Mass Index (BMI). Data are collected through the use the study instrument and the interview technique as means of data collection after obtaining women's agreement to be involved in the

study. Measurement of weight and height is performed using a measuring tape of two meters for height and a bathroom digital scale for weight to calculate women's BMI.

Data analysis: Data analysis performed through the application of descriptive and inferential statistical approaches of Frequency (F), Percentage (%), Mean of Score (M.S), Cronbach Alpha (α), Bivariate (Pearson) Correlation and Analysis of Variance (ANOVA). All the statistical procedures tested at $p \leq 0.05$. All data analysis Windows SPSS Version 21.0.

III. Results

This study was description presented in Table 1, the sample's demographic characteristics reveals that most of women are (25-34) year old, equally distributed relative to their marriage status, the majority of them are (15-24) year old when they get married, secondary school graduates, employed and housewife with family monthly income of 10001-15000 BDT. Women's body mass index results (Table 2) illustrates that most of them are overweight and obese. This table indicates that most of the women are (25-34) year old; equally distributed relative to their marriage status; at (15-24) year of age at marriage; secondary school graduates; employed and housewife with family monthly income of 10001-15000 BDT. This table indicates that most of the women are overweight and obese, and only (20.7%) of them has normal weight.

Table 1: Womens Demographic Characteristics (N=150)

List	Demographic Characteristics		F	%
1	Age:	15 – 24 years	51	34
		25 – 34 years	61	40.7
		35 – 44 years	34	22.7
		45 – 54 years	4	2.7
2	Marital Status:	Married	50	33.33
		Divorced	50	33.33
		Widowed	50	33.33
3	Age at Marriage:	15 – 24 years	129	86
		25 – 34 years	21	14
4	Education:	Read and write	24	16
		Primary school	25	16.7
		Secondary school	29	19.3
		Intermediate school	24	16
		Institute	22	14.7
		College	26	17.3
5	Occupation:	Employed	39	26
		Housewife	39	26
		Student	38	25.3
		Unemployed	34	22.7
6	Family Monthly Income:	5000.000-10000.000 BDT	50	33.3
		10001.000-15000.000 BDT	51	34
		≥ 15001.000 BDT	49	32.7

F: Frequency, %: Percentage.

Table 2: Distribution of Women According to their Body Mass Index (BMI) (N=150)

Womens BMI		F	%
Body Mass Index:	Normal	31	20.7
	Overweight	66	44
	Obesity I	44	29.3
	Obesity II	8	5.3
	Obesity III	1	0.7

F: Frequency, %: Percentage

Table 3: Assessment of Women's Risk Factors for Cervical Cancer (N=150)

Risk Factors	Scale	F (%)	M.S	Sig
Parity	None	44 (29.3)	1.47	N.S*
	≤ 2	71(47.3)		
	3 +	25(23.3)		
Age at Marriage	No	129(86)	1.14	N.S*
	Yes	21(14)		
Hormonal Replacement Therapy	No	148(98.7)	1.01	N.S*
	Yes	2 (1.3)		
Genital Infections	No	25(16.7)	1.83	N.S*
	Yes	125(83.3)		
Family History of Cervical Cancer	None	132(88)	1.14	N.S*
	Mother	15(10)		
	sister	3(2)		
Contraceptive Drugs Use	No	70(64.7)	1.53	N.S*
	Yes	80(53.3)		
Smoking	No	120(80)	1.2	N.S*
	Yes	30(20)		

F: Frequency, %: Percentage, MS: Mean of Scores, Sig: Level of Significance,*N.S (Not Significant) = 1-1.66, S (Significant) = 1.67-2.33, H.S (Highly Significant) = 2.34-3**N.S (Not Significant) = 1-1.33, S (Significant) = 1.34-1.67, H.S (Highly Significant) = 1.67-2.

This table reveals that all women's risk factors items for cervical cancer are non-significant except for genital infections and contraceptive drug use. Results of this table indicate that cervical cancer's preventive measures have significant relationships with women's age at marriage and their body mass index, and not significant with the remaining of women's socio-demographic characteristics.

IV. Discussion

Cervical cancer screening is the easiest, simple and easily affordable choice to prevent and reduce maternal mortality associated with cervical cancer. This study found that only

12.2% of women had a practice of cervical cancer screening; however, this finding is higher than the national data reported by the Institute Catalan of Oncology (ICO) in 2017 which showed that cervical screening practices in Ethiopia were less than 1% [9]. To begin with, the study sample description presented in the sample's demographic characteristics reveals that most of women are (25-34) year old, equally distributed relative to their marriage status, the majority of them are (15-24) year old when they get married, secondary school graduates, employed and housewife with family monthly income of 10001-15000 BDT. Women's body mass index results illustrates that most of them are overweight and obese. Woman's risk for developing cervical cancer is increases for certain factors and being obese is one of them [10]. Findings from a meta-analysis, study which estimate the association between overweight and obesity and risk of cervical

cancer, has reported that overweight is not associated with an increased risk of cervical cancer, but obesity is weakly associated [11]. Assessment of women's risk factors for cervical cancer in reported that genital infections and contraceptive drug use are the most significant risk factors experienced by the sample. Although parity is considered one of the risk factors for cervical cancer [12], this factor didn't appear to be significant among the sample because (29.3%) of them were without children even though there is (23.3%) of women with three children and more. An evidence being reported in a data from eight case-control studies on invasive cervical cancer and two studies on carcinoma in situ (CIS) from four continents. The study suggest that compared to women who had never given birth, those with three or four full-term pregnancies had 2.6 times the risk of developing cervical cancer; women with seven or more births had 3.8 times the risk [13]. Therefore women with three children and more who constitute (23.3%) of the sample may be at risk. Regarding women's preventive measures toward cervical cancer related to screening tests and HPV vaccine, it is well known that Pap screening test detect abnormal cells that may develop into cancer if left untreated and can also find noncancerous conditions, such as infections and inflammation [14]. Recently has been approved that HPV test use as primary cervical cancer screening for women age 25 and older, followed by a pap test for women with certain results [15]. In the current study, only one woman among the sample had Pap test and for sure did not take any shot of HPV vaccine. HPV vaccine is recommended by the center for diseases prevention and control for 11 and 12 year-old girls, as well for girls and women age 13 through 26 years old who have not yet been vaccinated or completed the vaccine series; HPV vaccine can also be given

to girls beginning at age 9 years [16]. In addition to this unfortunate result in the present study, almost none of the women screened for HPV and Chlamydia infection even if (83.3%) of them had genital infections. Western Australian data stated that 3 out of 4 women who develop cervical cancer have either never screened or have not had a Pap smear in the past 5 Years of their life. Research suggests that up to 90% of the most common form of cervical cancer, squamous cell carcinoma, can be prevented if women have regular Pap smears every two years [17]. Almost all cervical cancers are caused by Human papillomavirus (HPV), a common virus transmit during sex and the Pap test is one of the most reliable and effective cancer screening tests available to detect it [18] and by persistent genital infection become with high-risk [19]. A study conducted in Botswana to identify and describe factors influencing cervical cancer screening uptake among women attending Mahalapye District Hospital, it is detected that cervical cancer screening rates is very low (39%) [20]. However, this result is much better than the current study's result regarding this issue. Most of the women do trying to control their weight, reducing sugar intake and the majority of them do eat cancer fighting food, but the significances of the other items regarding reducing smoked food and soda intake came in the adverse way as the majority of them not doing so. In Bangladesh, people enjoying eating barbeque cooking and they do drink soda parallel to drinking water. Eating a variety of fruits and vegetables may help protect you from developing cervical cancer. Experts believe that a diet high in the antioxidants, carotenoids, flavonoids, and folate found in fruits and vegetables can help the body fight HPV infection and prevent HPV infection from turning cells of the cervix into cancerous

lesions. A study published in the Cancer Research journal found that women whose blood tests showed high levels of certain chemical compounds indicating a diet rich in fruits and vegetables, were able to clear their HPV infections faster than their peers, which could help reduce the risk of cancer [21]. Most of the women avoid the use of IUD contraceptives and steroid drugs. However, most of them use the oral type of contraceptives, which make them vulnerable to the risk of the problem. Long-term use of oral contraceptives (five or more years) is associated with an increased risk of cervical cancer. An analysis of (24) epidemiologic studies found that the longer a woman used oral contraceptives, the higher her risk of cervical cancer. However, among women who stopped taking oral contraceptives, the risk tended to decline over time, regardless of how long they had used oral contraceptives before stopping [23] [22]. The association of cervical cancer with oral contraceptive use is likely to be indirect. The hormones in oral contraceptives may change the susceptibility of cervical cells to HPV infection, affect their ability to clear the infection, or make it easier for HPV infection to cause changes that progress to cervical cancer [19]. The role of health education and health awareness is of great importance in the prevention of cervical cancer [24]. Moreover, the current study showed that the test result was a significant barrier to the uptake of cervical cancer screening; which means women who fear test outcome cervical cancer had less practice of cervical screening. Besides, barrier factors such as lack of information, unknown place of service, and felt wellness were shows significant association with low screening uptake. These findings have also been documented in other studies [22, 24, 33] Therefore, it needs to address these barriers to increase the uptake of screening practice.

This study has some limitations. It is a hospital-based study that is difficult to represent the entire population. It has a small sample size that can reduce statistical power and generalization. Other limitations of this study are recall bias and selection bias. As the sampling method of this study was purposive, it might be led to selection bias and decrease reliability. Lack of RR analysis methods also another limitation of this study as RRs would fit with common outcomes rather than OR in which some of the point estimates are not easy to interpret. The cross-sectional design investigates prevalence and associations rather than causality. Thus, future research needs to replicate these findings using prospective studies/longitudinal study design. A high percentage of the participation rate is considered the strength of this study.

V. Conclusion

This study aimed to determine the influence of sociodemographic characteristics and related factors for the low uptake of cervical cancer screening among women. Based on our study findings, women in the potential target population of cervical cancer screening were just a proportion of all studied age groups and screening in them was more common than in younger women. In addition, rural residence, low monthly income, governmental employee, lack of knowledge and wrong perception towards cervical cancer were significantly associated with the low uptake of cervical cancer screening. Therefore, we suggest that improving the health care system by giving due attention to the rural residence, low-income population, awareness creation towards screening, and associated risk factors including delivering the service to the government employee in their workplace. Furthermore, our study contributes insightful basis to develop strategies to prevent and control cervical

cancer based on the sociodemographic profile.

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